

F4/80 (6A545): sc-71085

BACKGROUND

The epidermal growth factor (EGF)-TM7 family constitutes a group of class B G protein-coupled receptors, which includes CD97, EMR1 (EGF-like molecule containing mucin-like hormone receptor 1, designated F4/80 in mouse), EMR2, EMR3, FIRE and ETL. These family members are characterized by an extended extracellular region with several N-terminal EGF domains, and are predominantly expressed on cells of the immune system. The EGF-TM7 protein family are encoded by a gene cluster on human chromosome 19p13.3. The F4/80 molecule is solely expressed on the surface of macrophages and serves as a marker for mature macrophage tissues, including Kupffer cells in liver, splenic red pulp macrophages, brain microglia, gut lamina propria and Langerhans cells in the skin. F4/80/EMR1 undergoes extensive N-linked glycosylation as well as some O-linked glycosylation. The function of F4/80/EMR1 is unclear, but it is speculated to be involved in macrophage adhesion events, cell migration or as a G protein-coupled signaling component of macrophages.

CHROMOSOMAL LOCATION

Genetic locus: ADGRE1 (human) mapping to 19p13.3; Adgre1 (mouse) mapping to 17 D.

SOURCE

F4/80 (6A545) is a rat monoclonal antibody raised against cultured bone marrow-derived macrophages of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

F4/80 (6A545) is recommended for detection of EMR1 of human origin, F4/80 of mouse origin and the corresponding rat homolog by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for EMR1 siRNA (h): sc-72157, F4/80 siRNA (m): sc-42865, EMR1 shRNA Plasmid (h): sc-72157-SH, F4/80 shRNA Plasmid (m): sc-42865-SH, EMR1 shRNA (h) Lentiviral Particles: sc-72157-V and F4/80 shRNA (m) Lentiviral Particles: sc-42865-V.

Molecular Weight of F4/80: 160 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213 or M1 whole cell lysate: sc-364782.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

SELECT PRODUCT CITATIONS

- Degasperi, G.R., et al. 2009. Reactive oxygen species production is increased in the peripheral blood monocytes of obese patients. *Metab. Clin. Exp.* 58: 1087-1095.
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- Chang, H.J., et al. 2012. Bone marrow transplantation enhances trafficking of host-derived myelomonocytic cells that rescue intestinal mucosa after whole body radiation. *Radiother. Oncol.* 104: 401-407.
- Leal, R.F., et al. 2013. Toll-like receptor 4, F4/80 and pro-inflammatory cytokines in intestinal and mesenteric fat tissue of Crohn's disease. *Int. J. Clin. Exp. Med.* 6: 98-104.
- Majumder, M., et al. 2014. Prostaglandin E2 receptor EP4 as the common target on cancer cells and macrophages to abolish angiogenesis, lymphangiogenesis, metastasis, and stem-like cell functions. *Cancer Sci.* 105: 1142-1151.
- Teillaud, J.L., et al. 2018. Exploring the role of tertiary lymphoid structures using a mouse model of bacteria-infected lungs. *Methods Mol. Biol.* 1845: 223-239.
- Zuo, A., et al. 2019. Understanding the effect of anthocyanin extracted from *Lonicera caerulea L.* on alcoholic hepatosteatosis. *Biomed. Pharmacother.* 117: 109087.
- Wang, S., et al. 2019. XIAOPI formula inhibits breast cancer stem cells via suppressing tumor-associated macrophages/C-X-C motif chemokine ligand 1 pathway. *Front. Pharmacol.* 10: 1371.
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- Huang, R., et al. 2020. CCL5 derived from tumor-associated macrophages promotes prostate cancer stem cells and metastasis via activating β-catenin/Stat3 signaling. *Cell Death Dis.* 11: 234.
- Hou, L., et al. 2020. Macrophage sphingosine 1-phosphate receptor 2 blockade attenuates liver inflammation and fibrogenesis triggered by NLRP3 inflammasome. *Front. Immunol.* 11: 1149.
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CONJUGATES

See **F4/80 (C-7): sc-377009** for F4/80 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.